

Tutorial 7

Exercise 1

Write a python program, ReverseWithStack, to reverse a string array by using Stack.

For example,

s = [Hack, Late, Hoolt, Soon, Alinn, Zhuol]

Reversing...

s = [Zhuol, Alinn, Soon, Hoolt, Late, Hack]

```
class ArrayStack:
    def __init__(self):
        self.stack = []
        self.size = 0

    #return true if the stack is empty
    def empty(self):
        return self.size == 0

    #return the size of the stack
    def stack_size(self):
        return self.size

    #add theElement to the top of the stack
    def push(self, element):
        self.stack.append(element)
        self.size += 1

    # Use peek to look at the top of the stack
    def peek(self):
        if(self.size > 0):
            return self.stack[-1] #The last element in the stack
        else:
            return ("Empty Stack")

    # Use list pop method to remove element
    def pop(self):
        if (self.size > 0):
            self.size -= 1
            return self.stack.pop()
        else:
            return ("Empty Stack")
```

Exercise 2

A stack can be used to check the balance delimiters in an expression. Show the content of the stack as you can it to trace the balance of the delimiters in the following expressions.

- a) $[a \{ b / (c-d) + e / (f+g) \} - h]$
- b) $\{ a [b + (c + 2) / d] + e \} + f$
- c) $[a \{ b + [c(d+e)-f] + g \}$